Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 1 of 32

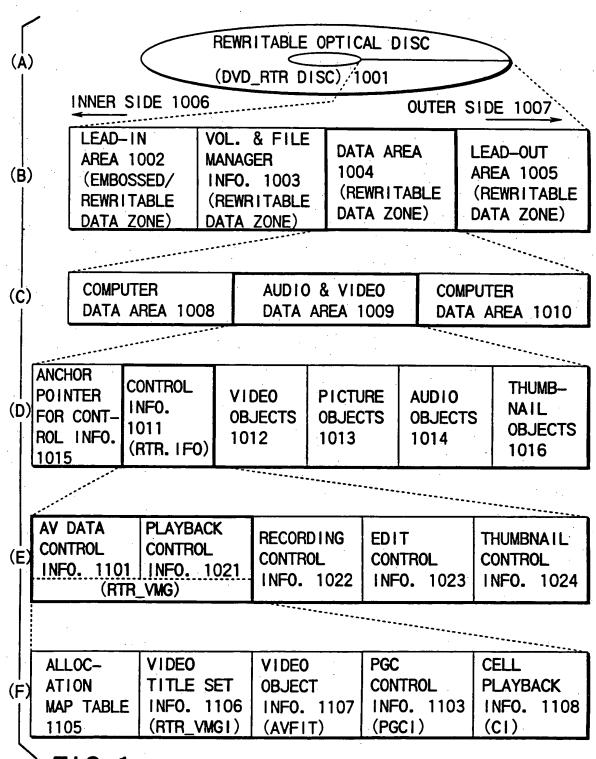


FIG. 1

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 2 of 32

ROOT DIRECTORY 1450 SUB DIRECTORY 1451 REWRITABLE TITLE SET RW_VTS 1452 (DVD_RTR DIRECTORY) RTR=REAL TIME RECORDING DATA FILES 1453 CONTROL INFORMATION 1011 =RW_VIDEO_CONTROL.1FO (RTR.1FO) BACKUP OF CONTROL INFO. =RW_VIDEO CONTROL.BUP AV FILE 1401 (RTR DATA) =RW_OBJECT.OB VIDEO OBJECT (RTR_MOV. VRO) 1012 PICTURE OBJECT (RTR_STO.VRO) 1013 AUDIO OBJECT (RTR_STA. VRO) 1014 THUMBNAIL OBJECT 1016 REWRITABLE ADDITIONAL INFO. 1454 =RW_ADD. DAT SUB DIRECTORY 1451 VIDEO TITLE SET VIDEO_TS (OR VTS) 1455 AUDIO TITLE SET AUDIO_TS (OR ATS) 1456 SUB DIRECTORY FOR COMPUTER DATA STORAGE 1457

AV FILE 1401 (A)VTS (OR RTR_MOV. VRO) 1402 (B) PTT (OR CHAPTER) 1407 PTT 1408 **VOB VOB 1403** VOB 1405 (C)1404 **VOBU VOBU VOBU VOBU 1411** 1412 1413 1414 (D) SP_ DM_ PCK PCK **PCK** PCK PCK. **PCK** PCK (E)1426 1427 1425 1421 1422 1423 1424 SEC-SEC-SEC-SEC-SEC-SEC-SEC-**TOR** TOR TOR TOR TOR TOR TOR 1436 1437 1433 1435 1431 1432 1434 VIDEO **AUDIO** SIZE OF EACH SECTOR=2048 BYTES **PART PART CELL CELL CELL** (G): 1442 1443 1441 PGC (OR PGCI) 1446 (H)AUDIO FRAME AUDIO FRAME SUB-PICTURE SEQ. I-PICTURE GOP_ SEQ._ UNIT SPU END_ HEADER (V_PACKS) **HEADER** (SP_PACKS) CODE FIG. 3

·

←SMALLER LOGICAL SECTOR NUMBER (LSN) LARGER LOGICAL ←INNER SIDE OF OPTICAL DISC 1001 OUTER SIDE OF 0

LARGER LOGICAL SECTOR NUMBER (LSN) → OUTER SIDE OF OPTICAL DISC 1001→

FIG 4

CONTENTS OF		NUMBER OF EXTENTS IN UNRECORDED AREA 1601	1
ALLOCATION MAP TABLE		1ST ADR. (LSN) OF 1ST	
1105		EXTENT IN UNRECORDED	e-a
1103	1	AREA 1606	
DISTRIBUTION		SIZE (SECTORS) OF 1ST	
INFORMATION OF		EXTENT IN UNRECORDED	f -e
POSITIONS OF	l /	AREA 1614	
UNRECORDED		NUMBER OF EXTENTS	1
AREA 1621		IN VOB #1 1602	
DI OTDI DUTI ON	Y	1ST ADR. (LSN) OF 1ST	b–a
DISTRIBUTION		EXTENT IN VOB #1 1607	
INFORMATION OF POSITIONS OF		SIZE (SECTORS) OF 1ST	c–b
RECORDED DATA		EXTENT IN VOB #1 1615	0.5
AS TO VOB #1		NUMBER OF EXTENTS	1
1622		IN VOB #2 1603	'
		1ST ADR. (LSN) OF 1ST	
DISTRIBUTION		EXTENT IN VOB #2 1608	d–a
INFORMATION OF		SIZE (SECTORS) OF 1ST	,
POSITIONS OF		EXTENT IN VOB #2 1616	e–d
RECORDED DATA		NUMBER OF EXTENTS	
AS TO VOB #2 1623		IN VOB #3 1604	3
		1ST ADR. (LSN) OF 1ST	
DISTRIBUTION		EXTENT IN VOB #3 1609	1
INFORMATION OF		SIZE (SECTORS) OF 1ST	
POSITIONS OF RECORDED DATA	·	EXTENT IN VOB #3 1617	b-a
AS TO VOB #3		1ST ADR. (LSN) OF 2ND	
1624		EXTENT IN VOB #3 1610	c-a
102.		SIZE (SECTORS) OF 2ND	
•		EXTENT IN VOB #3 1618	d–c
		1ST ADR. (LSN) OF 3RD	
•		EXTENT IN VOB #3 1611	f⊸a
		SIZE (SECTORS) OF 3RD	
FIG.5	\setminus	EXTENT IN VOB #3 1619	g–f

PGC CONTROL INFO. (OR UD_PGCIT) 1103 PGC INFORMATION MANAGEMENT INFO. (OR UD_PGCIT) 1052 PGC INFORMATION PGC GENERAL INFO. SEARCH POINTER #1 (OR PGC_GI) 1061 (UD_PGCI_SRP#1) 1053 PROGRAM INFO. (PGI#1) PGC INFORMATION SEARCH POINTER #n (UD_PGCI_SRP#n) 1054 PROGRAM INFO. PGC INFORMATION #1 (PGI#m) (OR UD_PGCI#1) 1055 CELL ID #1 (OR CI_SRP#1) PGC INFORMATION #i (OR UD_PGCI#i) 1056 CELL ID #m 1151 (OR CI_SRP#m) PGC INFORMATION #n CELL INFO. (OR UD_PGCI#n) 1057 #i=ANY ONE OF #1 TO #n CELL INFO. (CI#n)

- *1> PGC INFORMATION (OR UD_PGC1) CAN DEFINE A GROUP OF ONE OR MORE PROGRAMS;
- *2> EACH PROGRAM CAN BE FORMED OF ONE OR MORE CELLS;
- *3> EACH CELL CAN BE SPECIFIED BY CELL ID (OR CI_SRP);
- *4> EACH CELL ID (OR CI_SRP) CAN INDICATE POSITION (OR START ADDRESS) OF CELL INFORMATION (OR CI);
- *5> EACH CELL INFORMATION (OR CI) CAN DETERMINE START TIME AND END TIME OF PRESENTATION OF CELL

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 7 of 32

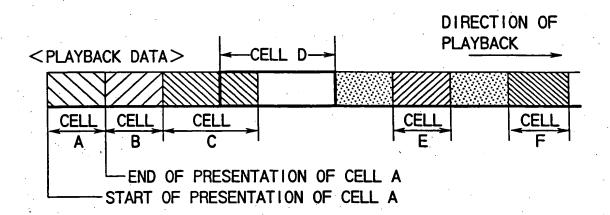


FIG. 7A

PGC INFORMATION (PGCI)

PGC#1	1081	PGC#2	1082	PGC#3	1083
NUMBE CELLS		NUMBE CELLS	ER OF S=3	NUMBE CELLS	
#1	CELL A	#1	CELL D	#1	CELL E
#2	CELL B	#2	CELL E	#2	CELL A
#3	CELL C	#3	CELL F	#3	CELL D
. ——	· · ·			#4	CELL B
				#5	CETT E
CELL 1D	CELL INFO.	CELL ID	CELL INFO.	CELL ID	CELL INFO.
CI_SRP #m=3	C1 #n=3	CI_SRP #m=3	CI #n=3	CI_SRP #m = 5	CI #n=4

FIG. 7B

Oblon, Spivak, et al. Docket No: 249726US2SDIV Inv: Hideo ANDO, et al.

Sheet 8 of 32

PLAY LIST SEARCH POINTER TABLE (PL_SRPT) VIDEO MANAGER INFO.

VTSI 1106 (RTR_VMGI)

MANAGEMENT

(VMGI_MAT)

TABLE

VTS GENERAL INFO. 1751

VOB SEQUENCE INFO. 1752

> PTT INFO. 1753

VTS TIME MAP **TABLE 1754**

FIG. 8

NUMBER OF VOB IN VTS OR PLAY LIST SEARCH POINTER TABLE INFO. (PL_SRPTI) 1756

1ST VOB_ID IN VOB SEQ. OR 1ST PLAY LIST SEARCH POINTER (PL_SRP#1) 1757 2ND VOB_ID IN VOB SEQ. OR 2ND PLAY LIST SEARCH POINTER (PL SRP#2) 1758

nTH VOB_ID IN VOB SEQ. OR nTH PLAY LIST SEARCH POINTER (PL SRP#n)

RTR VIDEO MANAGER INFO. (RTR_VMGI)

MOVIE AV FILE INFO. TABLE (M_AVFIT)

STILL PICTURE AV FILE INFO. TABLE (S_AVFIT)

ORIGINAL PGC INFO. (ORG_PGC1)

USER DEFINED PGC INFO. TABLE (UD_PGCIT)

TEXT DATA MANAGER (TXTDT_MG)

MANUFACTURER'S INFO. TABLE (MNFIT) <u>은</u> (RTR. RTR_VMG DATA NAV I GAT I ON

F16.9A				A	AV FILE 1401	10			
F16.9B			5	VTS (OR RTR_MOV. VRO) 1402	TR_MOV. VI	RO) 1402			
	V0B#1 1461	> -	V0B#2 1462		> -	V0B#3 1763		UNB	UNRECORDED AREA 1460
F16.90	EXTENT# a 1471		EXTENT# /3 1472	EXTENT# γ 1473		EXTENT# 8 1474	EXTENT# e 1475		EXTENT# \$ 1470
FIG. 9D				AV	AV FILE 1401	01			
F16.9E		VTS (0	R RTR_MO\	/. VRO/RTF	STO. VR	0/RTR_ST/	VTS (OR RTR_MOV. VRO/RTR_STO. VRO/RTR_STA. VRO) 1402	02	
	-#180_M	+ # # # # # # # # # # # # # # # # # # #			0/S	S_V0G1#			-
	V0B#A 1771	V0B排 1772	V0B#C 1773	V0B#D 1774	V0B#E 1775	V08#F 1776	V0B#G 1777	V0B#H 1778	V0B#1 1779
	VIDEO 0BJECTS	S	AUD 10 0BJECTS	PICTURE 0BJECTS	URE	AUD 10 0BJECTS	0 CTS	THUMBNAII	NA IL TS
F1G. 9F	1012		1014	1013		1014		1016	
	RTR_MOV. VRO RTR_STA. VRO	MOV. VRO		←-RTR_STO. VRO-÷	TO. VRO		-RTR_STA. VRO→		

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 10 of 32

FIG. 10A	VOB FOR P	ICTURE OBJEC	FIG. 10A VOB FOR PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1631	JRE VOB GROUP RE	LATING TO S	V0G1#) 1631
			VOR!! (EOD ONE STILL BLETTING)	01 (Jail 17) 10	4.1	
F16. 10B			TO ONE SI	ILL FICTORE) 10	- 4	
	V_PCK 1661	V_PCK 1662	V_PCK 1663	SP_PCK 1681	A_PCK	A_PCK
FIG. 100		I-PICTURE 1706	DUMMY DATA	SP_STREAM	A_STREAM	A_STREAM
			-VIDEO PART		AUDIO PART-	PART

FIG. 10D VOB FOR	VOB FOF	PIC	PICTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1632	ECTS (OR	STILL	틸	RE VOB G	ROUP REL	ATI	4G TO S_	190	1632
FIG. 10E VOBU (ONE	NOBON (ON	E ST	STILL PICT.) 1642	.) 1642	NOB	VOBU 1643	43			NOB	V0BU 1644	41
FIG. 10F	V_PCK 1664		SP_PCK	A_PCK V_PCK 1693 1665	V_PCK 1665		A_PCK V_PCK 1694 1666	V_PCK 1666		V_PCK 1667		A_PCK 1695

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 11 of 32

FIG. 10G VOB FOR PI	VOB FOR		OBJECTS	OR STILL	- PICTUR	CTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1633	UP RELAT	ING T	\$190A_8 C) 1633
FIG. 10H	i	VOBU (ONE STILL PICTURE) 1645	- PICTURE	:) 1645		V0BU 1646			V0BU 1647	647
	V_PCK 1668	V_PCK 1669	V_PCK 1670	SP_PCK 1683	V_PCK 1671	V_PCK 1672	V_PCK 1673		V_PCK 1674	
FIG. 101		I-PICTURE 1707	DUMMY 1704	SP_ STREAM	1-P1CT	-PICTURE 1708	DUMMY 1705		I-PICTURE 1709	E 1709
; ; ;		VIDEO PART	PART			-VIDEO PART		- -	←-VIDEO PART→	PART —
				••• • •						:
F1G. 10J VOB FOR P	VOB FOR		OBJECTS (OR STILL	- PICTUR	CTURE OBJECTS (OR STILL PICTURE VOB GROUP RELATING TO S_VOGI#) 1634	UP RELAT	ING TO	\$) 1634
FIG. 10K VOBU (ONE STILL PICTURE) 1648	NOBU ((ONE STILL	P I CTURE)	1648	N	V0BU 1649	•		VOBU 1650	650
		}			-					
FIG. 10L 1684	SP_PCK 1684	A_PCK 1696	A_PCK //	A_PCK /	A_PCK 1699	A_PCK A 1700	A_PCK 1701		A_PCK 1702	
-		AUDIO PART	PART		-VAU	AUDIO PART—			←—AUDIO PART→	PART +

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 12 of 32

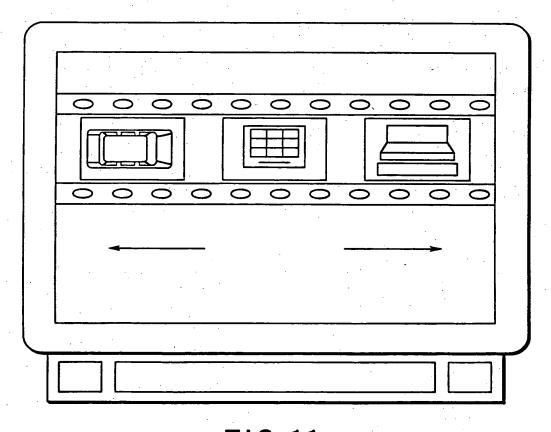


FIG. 11

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 13 of 32

STILL PICTURE AV FILE (S_AVFIT)

STILL PICTURE AV FILE INFO. TABLE INFO. (S_AVFITI)

STILL PICT. VOB STREAM INFO. #1 (S_VOB_STI#1)

STILL PICT. VOB STREAM INFO. #n (S_VOB_STI#n)

STILL PICTURE AV FILE INFO. (S_AVFI)

STILL PICT. AD-DITIONAL AUDIO STREAM INFO. #1 (S_AA_STI#1)

STILL PICT. AD-DITIONAL AUDIO STREAM INFO. #m (S_AA_STI#m)

STILL PICTURE
ADDITIONAL
AUDIO FILE INFO.
(S AAFI)

VOB INFO. FOR
PICT. OBJECTS
MANAGEMENT
INFO. 1721
(OR S_AVFI_GI)
SEARCH POINTER
OF VOB INFO. FOR
PICT. OBJECTS
#1 1726 (OR
S_VOGI_SRP#1)
SEARCH POINTER
OF VOB INFO. FOR
PICT. OBJECTS
#i 1727 (OR
S_VOGI_SRP#i)

SEARCH POINTER
OF VOB INFO. FOR
PICT. OBJECTS
#k 1728 (OR
S_VOGI_SRP#k)

VOB INFO. FOR PICT. OBJECTS #1 1731 (OR S_VOGI#1)

VOB INFO. FOR PICT. OBJECTS #i 1732 (OR S VOGI#i)

VOB INFO. FOR PICT. OBJECTS #k 1733 (OR S_VOGI#k)

VOB GENERAL
INFORMATION
FOR PICTURE
OBJECTS
1736 (OR
STILL PICTURE
VOB GROUP
GENERAL INFO.
S_VOG_GI)

VOB ATTRIB.
INFORMATION
FOR PICTURE
OBJECTS
1737

VOBU MAP FOR PICTURE OBJECTS 1738 (OR STILL PICTIRE VOB ENTRES S_VOB_ENT#)

FIG. 12 #i=ANY ONE OF #1 TO #k

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 14 of 32

VOB ATTRIB. INFO. FOR PICT. OBJ. 1737 VOBU MAP FOR . PICT. OBJ. 1738 (S VOB_ ENT#) VOB **GENERAL** INFO. 1736 OR S VOG_

STILL PICT.
ENTRY TYPE
(S_VOB_
ENT_TY)

NUMBER OF
STILL PICT.
(OR NUMBER
OF VOBUS)
IN CORRES—
PONDING
VOB 1801
(OR
S_VOB_NS)
INFO. OF 1ST
STILL PICT.

IN CORRES-PONDING
VOB 1802
INFO. OF 2ND
STILL PICT.
IN CORRES-PONDING
VOB 1803
INFO. OF 3RD
STILL PICT.
IN CORRES-PONDING

DATA SIZE OF STILL PICTURE (OR VOBU) INDICATED BY USED SECTORS 1806 (OR VIDEO PART SIZE V PART SZ/ AUDIO PART SIZE A PART SZ) DISPLAY TIME OF ONE STILL PICTURE 1807 REPRESENTED BY PLAYBACK TIME OF AUDIO PART (IF VOBU CONTAINS A_PCK) OR REPRESENTED BY DISPLAY TIME OF VIDEO PART (IF VOBU CONTAINS NO A PCK) ADDRESS OF 1ST V PCK IN VOBU 1808 (OR S_VOG_SA)

SIZE OF I-PICTURE IN VOBU (INDICATED BY TOTAL BYTES)
1809

PRESENTATION START TIME S_PTM OF STILL PICTURE (V_PCK/SP_PCK) 1810

1ST SYSTEM CLOCK REFERENCE F_SCR OF STILL. PICTURE (V_PCK/SP_PCK) 1811

ADDRESS OF 1ST A_PCK IN VOBU 1812

AUDIO S_PTM (PRESENTATION START TIME OF A_PCK) 1813

AUDIO E_PTM (PRESENTATION END TIME OF A_PCK) 1814

AUDIO F_SCR (SYSTEM CK REF. OF 1ST A_PCK IN VOBU) 1815

AUDIO L_SCR (SYSTEM CK REF. OF LAST A_PCK IN VOBU) 1816

PLAYBACK TIME OF AUDIO PART A_PB_TM

VOB 1804

FIG. 13

GI

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 15 of 32

F16.14A				8	VOB #A 1821	21		-		
	V0BU 1825	1825	 	V0BU 1826	9			MB/	V0BU 1827	-
F16, 14B	STILL PIC	LL PICT. NO. 1	STILL	STILL PICT. NO.	NO. 2			STILL F	STILL PICT. NO. h	T: 1
	STLPCT	AUDIO	STLPCT	PCT	AUDIO	STLPCI		STLPCT	AUDIO	·
	1831	1841	1832	2	1842	1833		1834	1843	
	V_PCK	A_PCK	V_PCK	SP_PK	A_PCK	V_PCK		> PCK	A PCK	· ·
F16, 140	1851	1861	1852	1848	1862	1853		1854	1863	
	CONTENTS	န		IL PICT				LAST	T STILL PICT.	
	CDECIEIEN	1	3					2	CELL	.]
		3	٧_ کر_ کر_	SP_PK	A_PCK	V_PCK		V_PCK	A_PCK	
F16. 14D			1852	1848/	1865	1853		1854	1866	
				>				>		1
	:	A_PCK	V_PCK	A_PCK	V_PCK	۸	V_PCK	A_PCK	V_PCK	
		1864	1855	1865	1856		1857	1866	1858	
	-	AUDIO	STLPCT	AUDIO	STLPCT	LS	STLPCT	AUD10	STLPCT	
F16.14E		1844	1835	1845	1836	18	1837	1846	1838	
										ו ר
		•	STILL PICTURE NO. 1	CIUNE		<u>s</u> 8	STILL PIC NO. h+i-2	STILL PICTURE NO. h+i-2		
F16.14F	•		V0BU 1828	1828			V0BU 1829	1829		T
										1
F16.146				9	VOB #B 1822	22				

CONTENTS (S_CI) OF CELL PLAYBACK INFO. (CI) FOR PICTURE OBJECTS 1870	EXAMPLE 1871 WITH RESPECT TO FIG.14	EXAMPLE 1872 WITH RESPECT TO FIG.14
CELL ID (CI_SRP) 1873	 	
TYPE INFORMATION OF CELL (C_TY) 1880		
ID INFORMATION OF VOB WITH V_PCK 1874	VOB #A	1821
STILL PICT. NUMBER 1875 IN VOB INCLUDING V_PCK OF 1ST STILL PICTURE IN CELL (S_S_VOB_ENTN)	2	1826
STILL PICT. NUMBER 1876 IN VOB INCLUDING V_PCK OF LAST STILL PICTURE IN CELL (E_S_VOB_ENTN)	h	1827
ID INFORMATION OF VOB WITH A_PCK 1877	VOB #B	1822
STILL PICT. NUMBER 1878 IN VOB INCLUDING A_PCK OF 1ST STILL PICTURE IN CELL	j	1828
PRESENTATION TIME 1879 OF EACH STILL PICTURE HAVING NO CORRESPONDING A_PCK	2 SECONDS (ONE LINE)	

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 17 of 32

CONTENTS OF CELL PLAYBACK INFO. (CI) FOR PTT	
CELL ID (CI_SRP) 1883	
TYPE INFO. OF CELL (C_TY) 1882	
ID INFO. OF PTT WITH V_PCK 1884	
STILL PICTURE NUMBER 1885 IN PTT OF VOB INCLUDING V_PCK OF 1ST STILL PICTURE IN CELL	
STILL PICTURE NUMBER 1886 IN PTT OF VOB INCLUDING V_PCK OF LAST STILL PICTURE IN CELL	
ID INFO. OF PTT WITH A_PCK 1887	
STILL PICTURE NUMBER 1888 IN PTT OF VOB INCLUDING A_PCK OF 1ST STILL PICTURE IN CELL	
PRESENTATION TIME 1889 OF EACH STILL PICT. HAVING NO CORRESPONDING A_PCK	

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 18 of 32

STILL PICTURE AV FILE INFO. (S_AVFI) FOR PTT (CHAPTER)

PTT INFO. FOR PICT. OBJECTS MANAGEMENT INFO. 1891

SEARCH POINTER
OF PIT INFO. FOR
PICT. OBJECTS
#1 1892

SEARCH POINTER
OF PIT INFO. FOR
PICT. OBJECTS
#2 1893

PTT INFO. FOR PICT. OBJECTS #1 1895

PTT INFO. FOR PICT. OBJECTS #2 1896

PTT GENERAL INFORMATION FOR PICTURE OBJECTS 1898

VOB MAP FOR PICTURE OBJECTS 1899

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 19 of 32

VOB MAP FOR PICT. OBJECTS 1899

NUMBER OF STILL PICT. (OR NUMBER OF VOBs) IN CORRESPONDING PTT 1901 (OR S_VOB_Ns)

INFO. OF 1ST STILL PICT. IN CORRESPONDING PTT 1902

INFO. OF 2ND STILL PICT. IN CORRESPONDING PTT 1903 DATA SIZE OF STILL PICTURE (OR VOB) INDICATED BY USED SECTORS 1906

DISPLAY TIME OF ONE STILL PICTURE 1907 REPRESENTED BY PLAYBACK TIME OF AUDIO PART (IF VOB CONTAINS A_PCK) OR REPRESENTED BY DISPLAY TIME OF VIDEO PART (IF VOB CONTAINS NO A_PCK)

ADDRESS OF 1ST V_PCK IN VOB 1908 (OR S_VOG_SA)

SIZE OF I-PICTURE IN VOB (INDICATED BY TOTAL BYTES) 1909

PRESENTATION START TIME S_PTM OF STILL PICTURE (V_PCK/SP_PCK) 1910

1ST SYSTEM CLOCK REFERENCE F_SCR OF STILL. PICTURE (V_PCK/SP_PCK) 1911

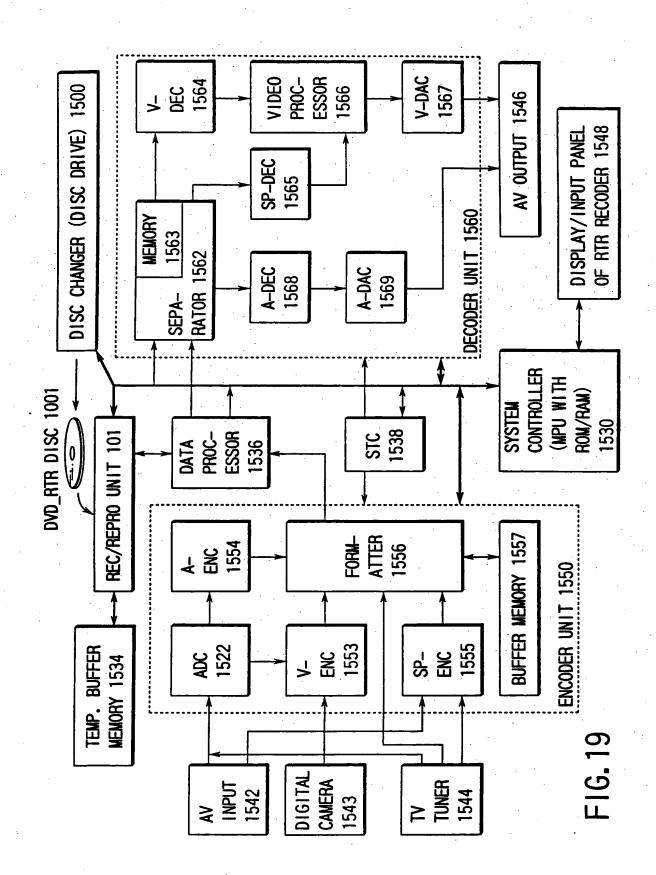
ADDRESS OF 1ST A_PCK IN VOB 1912

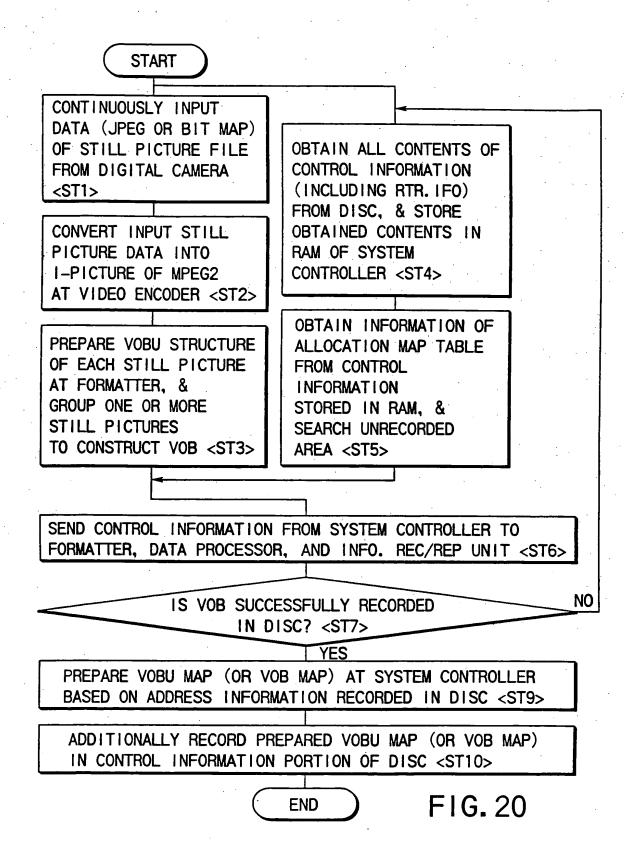
AUDIO S_PTM (PRESENTATION START TIME OF A_PCK) 1913

AUDIO E_PTM (PRESENTATION END TIME OF A_PCK) 1914

AUDIO F_SCR (SYSTEM CK REF. OF 1ST A_PCK IN VOB) 1915

AUDIO L_SCR (SYSTEM CK REF. OF LAST A_PCK IN VOB) 1916





Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 22 of 32

START

OBTAIN ALL CONTENTS OF CONTROL INFORMATION (RTR. 1FO) FROM DISC, & STORE OBTAINED CONTENTS IN RAM OF SYSTEM CONTROLLER <ST11>

OBTAIN PLAYBACK CONTROL INFO. FROM CONTROL INFO. STORED IN RAM, & INTERPRETE OBTAINED INFORMATION AS TO MANNER OF REPRODUCTION <ST12>

SEARCH PROGRAM TO BE REPRODUCED BASED ON PGC CONTROL INFO. IN RAM, OBTAIN CELL(S) IN PGC INFORMATION OF SEARCHED PROGRAM, & OBTAIN VOB_ID OR PTT_ID SPECIFIED BY CORRESPONDING CELL FROM CELL PLAYBACK INFORMATION STORED IN RAM <ST13>

OBTAIN DISC ADDRESS OF VOB TO BE REPRODUCED BASED ON VOB INFORMATION OR PTT INFORMATION STORD IN RAM <ST14>

ACCESS VOB RECORDED IN DISC BASED ON CONTROL SIGNAL FROM SYSTEM CONTROLLER TO REPRODUCE INFORMATION OF VOB, & PROVIDE REPRODUCED INFORMATION AS AV OUTPUT FOR DISPLAY <ST18>

RECEIVE ADDITIONAL INFO. INPUT BY USER WHILE DISPLAYING AV OUTPUT, & GROUP ONE OR MORE STILL PICTURES AT FORMATTER BASED ON USER-INPUT INFORMATION TO PREPARE VOB OR PTT <ST19>

RECORD INFORMATION OF VOB PREPARED BY FORMATTER <ST20>

END

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 23 of 32

START

OBTAIN ALL CONTENTS OF CONTROL INFORMATION (RTR. 1FO) FROM DISC, & STORE OBTAINED CONTENTS IN RAM OF SYSTEM CONTROLLER <ST11>

OBTAIN PLAYBACK CONTROL INFO. FROM CONTROL INFO. STORED IN RAM, & INTERPRETE OBTAINED INFORMATION AS TO MANNER OF REPRODUCTION <ST12>

SEARCH PROGRAM TO BE REPRODUCED BASED ON PGC CONTROL INFO. IN RAM, OBTAIN CELL(S) IN PGC INFORMATION OF SEARCHED PROGRAM, & OBTAIN VOB_ID OR PTT_ID SPECIFIED BY CORRESPONDING CELL FROM CELL PLAYBACK INFORMATION STORED IN RAM <ST13>

OBTAIN DISC ADDRESS OF VOB TO BE REPRODUCED BASED ON VOB INFORMATION OR PTT INFORMATION STORD IN RAM <\$T1.4>

ACCESS VOB RECORDED IN DISC BASED ON CONTROL SIGNAL FROM SYSTEM CONTROLLER TO REPRODUCE INFORMATION OF VOB, & PROVIDE REPRODUCED INFORMATION AS AV OUTPUT FOR DISPLAY <ST18>

ACCESS VOB #A RECORDED IN DISC TO PROVIDE STILL PICTURE INFORMATION OF VOB #A <ST16>

ACCESS VOB #B IN DISC TO REPRODUCE AUDIO INFORMATION OF VOB #B, & PROVIDE AUDIO INFO. OF VOB #B AND STILL PICTURE INFO. OF VOB #A AS AV OUTPUT FOR STILL PICTURE DISPLAY WITH SOUND <ST17>

END

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 24 of 32

USER DEFINED PGC INFO. TABLE INFORMATION (UD_PGCITI) RTR_VMG USER DEFINED PGCI SEARCH RTR VIDEO MANAGER POINTER #1 (UD_PGCI SRP#1) INFO. (RTR_VMGI) MOVIE AV FILE INFO. USER DEFINED PGCI SEARCH TABLE (M_AVFIT) POINTER #n (UD_PGCI_SRP#n) STILL PICTURE AV USER DEFINED PGC INFO. #1 FILE INFO. TABLE (UD_PGCI#1) (S_AVFIT) ORIGINAL PGC INFORMATION USER DEFINED PGC INFO. #n (ORG_PGCI) (UD PGC1#n) USER DEFINED PGC CONTENTS OF PGCI (ORIGINAL INFORMATION TABLE PGCI OR USER DEFINED PGCI) (UD_PGCIT) PGC INFORMATION #1 (PGCI#1) TEXT DATA MANAGER PGC GENERAL INFO. (PGC_GI) (TXTDT_MG) PROGRAM INFO. #1 (PGI#1) MANUFACTURER'S INFO. TABLE (MNFIT) PROGRAM INFO. #m (PGI#m) START ADDRESS OF CELL INFO. SEARCH POINTER #1 CELL INFO. (CI_SA) (CI SRP#1) CELL INFO. SEARCH POINTER #n MOVIE CELL INFO. (CI_SRP#n) (M CI) CELL INFO. #1 (CI#1) OR STILL PICTURE CELL INFO. #n (CI#n) CELL INFO. (S_CI)

Oblon, Spivak, et al. Docket No: 249726US2SDIV Inv: Hideo ANDO, et al.

Sheet 25 of 32

STILL PICTURE CELL INFO. (S_C1) STILL PICTURE CELL GENERAL INFORMATION (S_C_GI)

STILL PICT. CELL ENTRY POINT INFORMATION #1 (S_C_EPI#1)

STILL PICT. CELL ENTRY POINT INFORMATION #n (S_C_EPI#n)

FIG. 24

CONTENTS OF S_C_GI

FIELD NAME	CONTENTS
RESERVED	RESERVED
C_TY	CELL TYPE
S_VOGI_SRPN	S_VOGI SEARCH POINTER NUMBER
C_EPI_Ns	NUMBER OF CELL ENTRY POINT INFO.
S_S_VOB_ENTN	START S_VOB_ENT NUMBER
E_S_VOB_ENTN	END S_VOB_ENT NUMBER

FIG. 25

CONTENTS OF S_C_EPI

FIELD NAME	CONTENTS
EP_TY	ENTRY POINT TYPE
S_VOB_ENTN	S_VOB_ENT NUMBER
PRM_TXT1	PRIMARY TEXT INFORMATION

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 26 of 32

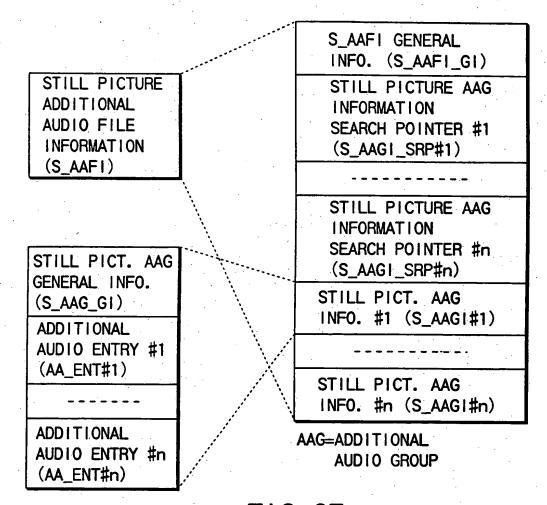


FIG. 27

CONTENTS OF S_AAG_GI

FIELD NAME	CONTENTS
AA_ENT_Ns	NUMBER OF AA_ENT
S_AA_STIN	STILL PICTURE ADDITIONAL AUDIO STREAM INFORMATION NUMBER
S_AAG_SA	START ADDRESS OF THIS AAG IN STILL PICTURE ADDITIONAL AUDIO FILE

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 27 of 32

CONTENTS OF AA_ENT

FIELD NAME	CONTENTS
AA_TY	ADDITIONAL AUDIO TYPE
AA_SZ	SIZE OF ADDITIONAL AUDIO STREAM
AA_PB_TM	PLAYBACK TIME OF ADDITIONAL AUDIO STREAM (MEASURED BY VIDEO FIELDS)

FIG. 29

CONTENTS OF S_VOG_GI

FIELD NAME	CONTENTS
S_V0B_Ns	NUMBER OF S_VOBs
S_VOB_STIN	STILL PICTURE VOB STREAM INFORMATION NUMBER
FIRST_VOB_REC_TM	TIME WHEN THE FIRST VOB IN THIS VOB GROUP WAS RECORDED
LAST_VOB_REC_TM	TIME WHEN THE LAST VOB IN THIS VOB GROUP WAS RECORDED
S_VOG_SA	START ADDRESS OF THIS VOB GROUP IN STILL PICTURE AV FILE

FIG. 30

CONTENTS OF S_VOB_ENT (TYPE 1)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART

Oblon, Spivak, et al.

Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.

Sheet 28 of 32

CONTENTS OF S_VOB_ENT (TYPE 2)

FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART
A_PART_SZ	SIZE OF ORIGINAL AUDIO PART
A_PB_TM	PLAYBACK TIME OF AUDIO PART (DESCRIBED IN VIDEO FIELDS)

FIG. 32

CONTENTS OF S_VOB_ENT (TYPE 3)

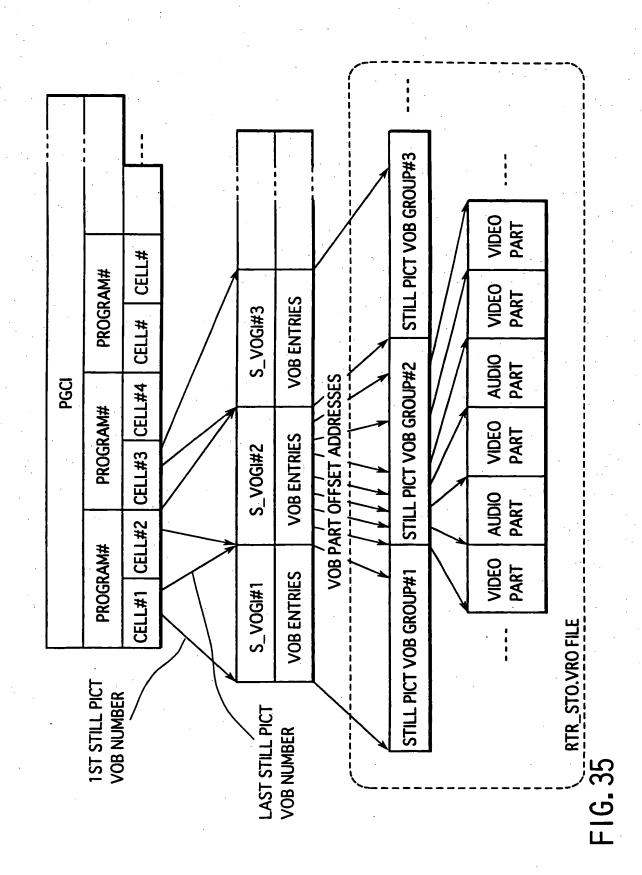
FIELD NAME	CONTENTS
S_VOB_ENT_TY	STILL PICTURE VOB ENTRY TYPE
V_PART_SZ	SIZE OF VIDEO PART
S_AAGN	ADDITIONAL AUDIO GROUP NUMBER
AA_ENTN	AA_ENT NUMBER

FIG. 33

CONTENTS OF S_VOB_ENT (TYPE 4)

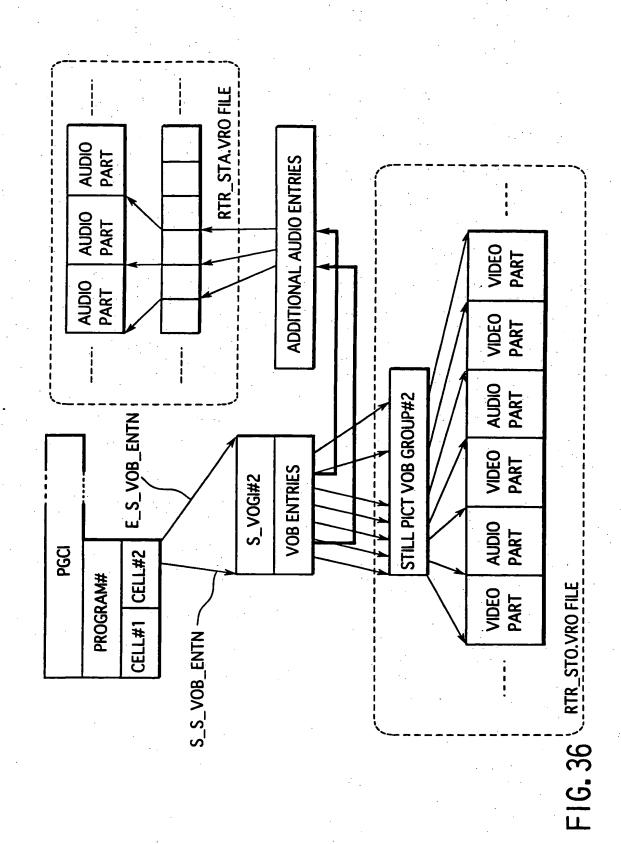
CONTENTS
STILL PICTURE VOB ENTRY TYPE
SIZE OF VIDEO PART
SIZE OF ORIGINAL AUDIO PART
PLAYBACK TIME OF AUDIO PART
ADDITIONAL AUDIO GROUP NUMBER
AA_ENT NUMBER

Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 29 of 32

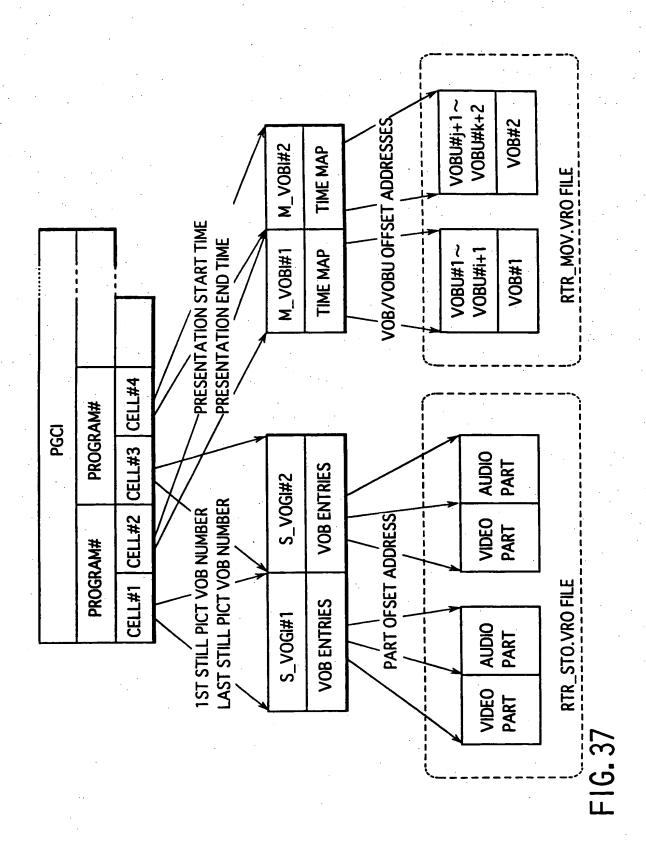


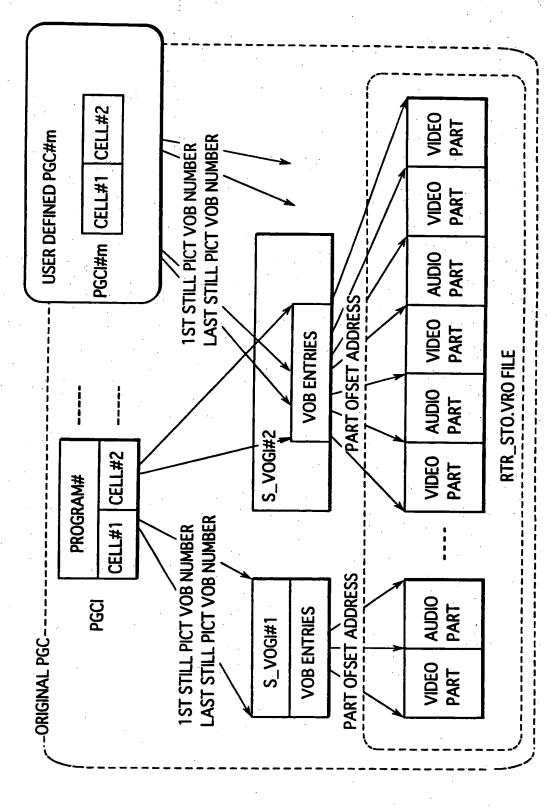
Oblon, Spivak, et al.

Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 30 of 32



Oblon, Spivak, et al.
Docket No: 249726US2SDIV
Inv: Hideo ANDO, et al.
Sheet 31 of 32





F16.3